

REMARKS

Claims 1-29 are currently pending in the subject application, and are presently under consideration. Claims 18-20, 28 and 29 are allowed. Claims 1, 3, 12-14, 16, 17, 21, 25 and 27 are rejected. Claims 2, 4-11, 15, 22-24 and 26 have been indicated as allowable. Claims 14, 17, 21, 23 and 25 have been amended. The amendment of claim 14 should overcome the Examiner's objection to claim 13 and 14. Claim 17 has been amended to correct its dependency. Favorable reconsideration of the application is requested in view of the amendments and comments herein.

I. Rejection of Claims 1, 3, 12-14, 16, 17, 21, 25 and 27 Under 35 U.S.C. §102(b)

Claims 1, 3, 12-14, 16, 17, 21, 25 and 27 stand rejected under 35 U.S.C. §102(b) as being anticipated by Kiko (U.S. 5,586,181) (hereinafter "Kiko"). Withdrawal of this rejection is respectfully requested for at least the following reasons.

Claim 1 recites a cross cancellation component that generates a digital reference signal that is converted to an analog signal, amplified and added to the amplifier output signal to substantially reduced unwanted signals, distortion and out-of-band (OOB) emissions associated with the amplified output signal.

Claim 3, which depends from claim 1, recites the cross cancellation component generates a pre-computed digital signal that is converted to an analog signal, amplified and added to the amplified output signal to provide an amplified output signal substantially free of unwanted signals, distortion, and out-of-band (OOB) emissions. Claim 14 as amended recites that the digital reference signal corresponds to a desired output signal.

The Examiner states that Kiko (Fig. 2) discloses an amplifier circuit comprising a power amplifier (46 that includes a feed forward amplifier), which provides an amplified output signal associated with an input signal, and a cross cancellation component which generates a digital reference signal that is converted to an analog signal and amplified and added to the amplifier output signal to substantially reduced unwanted signals. Applicant's representative respectfully disagrees.

Kiko discloses a metallic channel unit network for interconnecting a two-wire transmission path to a four-wire digital transmission path, which is compatible with substantially all of the different alarm techniques utilized in signaling alarm conditions. FIG. 2 illustrates a block diagram of the metallic channel unit that can be connected to alarm equipment at a customer's premises or alarm-monitoring equipment at an alarm company. The Examiner states that the channel logic array of Fig. 2 is a digital cross cancellation component that generates a digital reference signal that is converted to an analog signal and added to the amplifier output signal by a feed forward amplifier. Applicant's representative respectfully disagrees.

Kiko states (col. 7, ll. 58-67, col. ll. 1-28) that there is shown a signal receive port 78, which is connectible via line 80 to a first transmission path of the channel bank multiplexer (four-wire circuit) for receiving both encoded incoming DC band frequency signal and incoming voice band frequency signals. The incoming signals at the receive port 78 are separated by the channel logic array 38 into incoming voice band frequencies which are applied to the ADPCM processor 32 via line 86 and incoming tip and ring terminals "DC band" frequency signals which are applied to the D/A signal processing circuit 38 via line 88. The tip and ring signals are then separated to provide the tip signals on node N2 and the ring signals on node N3. The high efficiency driver 46 is employed to drive the tip signals over a tip line of a bidirectional port and a high efficiency driver 48 is employed to drive the ring signals over a ring line of the bidirectional port. The voice signals are converted from a single ended to bidirectional signals and transmitted with the tip signals and ring signals over the bidirectional port. The metallic channel unit operates in the reverse manner for transmission from two-wires to four-wires.

The channel logic unit performs signal separation and aggregation for converting signals between four-wire and two-wire circuitry. The Examiner states that signal 88 is a digital reference signal. Applicant's representative respectfully disagrees. The signal 88 is the tip signal portion of the incoming signal, and is not a digital reference signal (separate from the input signal), that is converted to an analog signal, amplified and added to the amplifier output signal to substantially reduced unwanted signals, distortion and out-of-band (OOB) emissions associated with the amplified output signal, as recited in claim 1.

The Examiner further states that the feedforward amplifier 108 of FIG. 4F in switch driver 46 amplifies and adds to the amplifier output to substantially reduce distortion signals. Applicant's representative again respectfully disagrees. Kiko states (col. 15, ll. 51-52) that the feedforward amplifier functions as a second order high pass filter, and does not disclose that the feedforward amplifier performs any of the functions of generating a digital reference signal that is converted to an analog signal, amplified and added to the amplifier output signal to substantially reduced unwanted signals, distortion and out-of-band (OOB) emissions associated with the amplified output signal, as recited in claim 1. Therefore, Kiko does not teach each and every element of claim 1, and therefore does not anticipate claim 1 and claims 3, 12-14 and 16-17, which depend therefrom. Accordingly, withdrawal of the rejection of claims 1, 3, 12-14 and 16-17 is respectfully requested.

Furthermore, Kiko does not disclose that the cross cancellation component generates a pre-computed digital signal that is converted to an analog signal, amplified and added to the amplified output signal to provide an amplified output signal substantially free of unwanted signals, distortion, and out-of-band (OOB) emissions, as recited in claim 3, which depends from claim 1. Kiko does not teach each and every element of claim 3 and therefore does not anticipate claim 3.

Furthermore, Kiko does not disclose that a digital reference signal that corresponds to a desired output signal, as recited in amended claim 14, which depends from claim 1. Kiko does not teach each and every element of claim 14, and therefore does not anticipate claim 14.

Claim 21 as amended recites means for modifying a digital input signal and means for adding a cancellation signal to the amplified output signal to reduce errors and out-of-band (OOB) emissions caused by the modifying of the digital input signal. Kiko does not disclose means for modifying a digital input signal and means for adding a cancellation signal to the amplified output signal to reduce errors and out-of-band (OOB) emissions caused by the modifying of the digital input signal, as recited in amended claim 21. Therefore, Kiko does not teach each and every element of claim 21, and does not anticipate claim 21.

Claim 25 as amended recites generating a digital reference signal that corresponds to an inverted version of a desired output signal, combining an attenuated version of the amplified output signal with an analog version of the digital reference signal to generate an error signal, and combining an inverted, amplified version of the error signal with a delayed version of the amplified output signal to provide a final output signal substantially free of out-of-band (OOB) emissions and signal distortion. Kiko does not disclose generating a digital reference signal that corresponds to an inverted version of a desired output signal and combining an attenuated version of the amplified output signal with an analog version of the digital reference signal to generate an error signal and combining an inverted, amplified version of the error signal with a delayed version of the amplified output signal, as recited in amended claim 25. Therefore, Kiko does not teach each and every element of claim 25, and does not anticipate claim 25 and claim 27, which depends therefrom.

Claim 27 further recites converting the input signal and the reference signal from the digital domain to the analog domain directly to a desired radio transmission frequency. Kiko discloses an alarm transmission system over a wired network, and therefore, does not disclose converting signals from the digital domain to the analog domain directly to a desired radio transmission frequency, as recited in claim 27. Kiko does not teach each and every element of claim 27 and therefore does not anticipate claim 27.

For the reasons described above, claims 1, 3, 12-14, 16, 17, 21, 25 and 27 should be patentable over the cited art. Accordingly, withdrawal of this rejection is respectfully requested.


CONCLUSION

In view of the foregoing remarks, Applicant respectfully submits that the present application is in condition for allowance. Applicant respectfully requests reconsideration of this application and that the application be passed to issue.

Please charge any deficiency or credit any overpayment in the fees for this amendment to our Deposit Account No. 20-0090.

Respectfully submitted,

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